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B. E. (Eighth Semester) Examination, ~~2020~~ APR-MAY 2022

(New Scheme)

(ET&T Branch)

ARTIFICIAL INTELLIGENCE & EXPERT SYSTEMS

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions carrying equal marks. Part (a) is compulsory. Solve any two from rest of the parts per question.

Unit-I

1. (a) Define precise definition of AI. 2

(b) Explain the uninformal search strategies with example. 7

(c) What is Turing test? What are application of AI? 7

(d) Write short technical notes : 7

(i) Control strategies

(ii) Depth first search

Unit-II

2. (a) What is Greedy Best first search? 2

(b) What is A^* search? Explain various stages of A^* search with an example. 7

(c) Define state space diagram by solving missionaries and Cannibal problem. 7

(d) Explain Hill climb algorithm with its limitation. 7

Unit-III

3. (a) Define propositional knowledge. 2

(b) Explain backtracking in Prolog. Explain the use of cut, fail predicate in Prolog. 7

(c) What is Knowledge? What are the properties of a

knowledge based system? Describe various knowledge representation technique. 7

(d) Define "List" in Prolog. Write a program in Prolog :

(i) to find the length of a list

(ii) to find the first elements and last element in list 7

Unit-IV

4. (a) What is Parsing? 2

(b) What are the basic steps in natural language processing? What is Lexicon? 7

(c) Explain the syntactic and semantic analysis in Natural Language Processing (NLP). 7

(d) Write short notes on the following : 7

(i) Linear planning

(ii) Bays theorem

Unit-V

5. (a) Briefly explain the AI MYCIN. 2

(b) Explain the basic characteristics of an expert system.

Describe the architecture of an expert system with suitable diagram. 7

(c) Explain the life cycle of expert systems. 7

(d) Describe the basic components of a rule based system with suitable block diagram. 7